

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 59-015415

(43)Date of publication of application : 26.01.1984

(51)Int.Cl. C08F136/06
C08F 2/00
C08F 4/42

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(54) PRODUCTION OF REINFORCED POLYBUTADIENE

(57)Abstract:

PURPOSE: To decrease polymer deposition on a polymerization vessel and to make it possible to perform continuous polymerization for a long time, by subjecting 1,3-butadiene first to cis-1,4-polymerization and then to 1,2-polymerization while adding catalytic components in a specified order to an inert organic solvent.

CONSTITUTION: 1,3-Butadiene, a solvent and CS₂ are mixed together; then the water concentration of the mixture is adjusted; after the addition of a halogen- containing organoaluminum compound, the mixture is aged for at least 1min in the absence of a cobalt compound; and then, after the addition of a cobalt compound, the resulting solution is mixed under agitation to polymerize the 1,3- butadiene into cis-1,4-polybutadiene. Then, an organoaluminum compound together with, if necessary, a cobalt compound is added to the above produced polymerization reaction mixture, and the resulting mixture is mixed with agitation to effect 1,2-polymerization. Part of the produced reinforced polybutadiene is separated, and the remainder is distilled to remove high-boiling matter, and a mixture of unreacted butadiene, solvent and CS₂ is recirculated to the initial step.